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What is claimed is:

1. A failsafe actuator for returning an actuator driven element to a failsafe position in case of a failure condition, said actuator comprising:

a drive assembly configured to drive said actuator driven element, said drive assembly comprising a plunger having at least a first plunger position, said actuator driven element responsive to said plunger such that said actuator driven element is in said failsafe position when said plunger is in said first plunger position;

a return mechanism; and

an electromechanical mechanism configured to hold said plunger in at least a second plunger position and further configured to release said plunger upon detection of said failure condition thereby permitting said return mechanism to drive said plunger to said first plunger position and hence said actuator driven element to said failsafe position.

2. The failsafe actuator of claim 1, wherein said drive assembly further comprises an electrically driven motor having an output shaft, said output shaft coupled to a gear train, said gear train further coupled to said plunger, said gear train comprising a clutch configured to release when said plunger is in said second plunger position to aid said return mechanism in back driving said plunger to said first plunger position.

3. The failsafe actuator of claim 1, wherein said failure condition is a loss of electrical power to said drive assembly.

4. The failsafe actuator of claim 1, wherein said failure condition is a malfunction of said electromechanical mechanism.

5. The failsafe actuator of claim 1, wherein said electromechanical mechanism comprises a solenoid having a solenoid shaft, said solenoid shaft having an extended position and retracted position, said solenoid shaft holding said plunger in at least said second plunger position when said solenoid shaft is in said extended position.

6. The failsafe actuator of claim 5, wherein said solenoid shaft releases said plunger when said solenoid shaft is in said retracted position.

7. The failsafe actuator of claim 5, wherein said detection of said failure condition occurs when a holding current for said solenoid shaft is interrupted.

8. The failsafe actuator of claim 1, wherein said actuator driven element is a stabilizer bar and said failsafe position is activation of said stabilizer bar.

9. The failsafe actuator of claim 1, wherein said return mechanism is a compression spring.

10. A failsafe actuator for returning an actuator driven element to a failsafe position in case of a failure condition, said failsafe actuator comprising:

5 a drive assembly configured to drive a plunger from a first plunger position to a second plunger position;

a return mechanism configured to drive said plunger from said second plunger position to said first plunger position, said actuator driven element responsive to said plunger such that said actuator driven element is in said failsafe position when said plunger is in said first plunger position; and

10 an electromechanical mechanism configured to hold said plunger in at least said second plunger position and further configured to release said plunger upon detection of said failure condition thereby permitting said return mechanism to drive said plunger to said first plunger position and hence said actuator driven element to said failsafe position.

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11. The failsafe actuator of claim 10, wherein said electromechanical mechanism comprises a solenoid having a solenoid shaft, said solenoid shaft having an extended position and retracted position, said solenoid shaft holding said plunger in at least said second plunger position when said solenoid shaft is in said extended position.

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12. The failsafe actuator of claim 11, wherein said solenoid shaft releases said plunger when said solenoid shaft is in said retracted position.

13. The failsafe actuator of claim 11, wherein said detection of said failure condition occurs when a holding current for said solenoid shaft is interrupted.

5 14. The failsafe actuator of claim 10, wherein said actuator driven element is a stabilizer bar and said failsafe position is activation of said stabilizer bar.

15. A failsafe actuator for returning an actuator driven element to a failsafe position in case of a failure condition, said actuator comprising:

10 a drive assembly configured to drive said actuator driven element, said drive assembly comprising an electrical motor; and

an electrical energy storage element coupled to said electrical motor, said electrical energy storage element providing sufficient electrical energy to said electrical motor to enable said electrical motor to drive said actuator driven element to said  
15 failsafe position upon detection of a failure condition.

16. The failsafe actuator of claim 15, wherein said electrical energy storage element is a capacitor.

20 17. The failsafe actuator of claim 16, wherein said capacitor has a size of at least one Farad to provide said sufficient electrical energy.

18. The failsafe actuator of claim 15, wherein said failure condition is a loss of electrical power to said electrical motor.

19. A failsafe actuator for returning an actuator driven element to a failsafe  
5 position in case of a failure condition, said actuator comprising:  
a drive assembly for driving said actuator driven element; and  
an energy storage element in working relationship with said drive assembly, said  
energy storage element configured to provide replacement energy to drive said actuator  
driven element to said failsafe position in case of said failure condition.

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20. The failsafe actuator of claim 19, wherein said energy storage element is a mechanical energy storage element.

21. The failsafe actuator of claim 20, wherein said mechanical energy storage  
15 element comprises a compression spring.

22. The failsafe actuator of claim 20, wherein said drive assembly comprises an electrical motor and wherein said failure condition is loss of electrical power to said motor or malfunction of said motor.

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23. The failsafe actuator of claim 19, wherein said energy storage element is an electrical energy storage element.

24. The failsafe actuator of claim 23, wherein said electrical energy storage element is a capacitor.

5 25. The failsafe actuator of claim 23, wherein said drive assembly comprises an electrical motor and wherein said failure condition is loss of electrical power to said electrical motor, said electrical energy storage element providing sufficient replacement electrical energy to said motor for driving said actuator driven element to said failsafe condition.

10 26. A method for returning an element to a failsafe position in case of a failure condition, said method comprising the steps of:

driving a plunger from a first plunger position to a second plunger position;

holding said plunger in at least said second plunger position;

15 detecting said failure condition;

releasing said plunger from said at least second plunger position upon detection of said failure condition; and

driving said plunger from said at least second plunger position to said first plunger position, said element responsive to a position of said plunger such that said  
20 element is in said failsafe position when said plunger is in said first plunger position..

27. The method of claim 25, wherein said plunger is driven from said at least second plunger position to said first plunger position by a return mechanism.

28. The method of claim 25, wherein said return mechanism comprises a  
5 compression spring.

29. A method for returning an element to a failsafe position in case of a failure condition, said method comprising the steps of:

driving said element;

10 storing electrical energy in an electrical energy storage element;

detecting said failure condition; and

providing said energy from said storage step to drive said element to said failsafe position upon detection of said failure condition.

15 30. The method of claim 29, wherein said failure condition is loss of electrical power.

31. The method of claim 29, wherein said electrical energy storage element is a capacitor.

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32. A method for returning an element to a failsafe position in case of a failure condition, said method comprising the steps of:



storing energy;

detecting said failure condition; and

utilizing said energy from said storing step to return said element to a failsafe position.

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33. The method of claim 32, wherein said storing step stores energy in a mechanical energy storage element.

34. The method of claim 32, wherein said storing step stores energy in an  
10 electrical energy storage element.

35. The method of claim 34, wherein said electrical energy storage element is a capacitor.

15 36. A stabilizer bar system comprising:

at least one stabilizer bar;

a power source;

an actuator receiving electrical power from said power source, said actuator  
comprising:

20 a drive assembly configured to drive said at least one stabilizer bar, said  
drive assembly comprising a plunger having at least a first plunger position, said  
at least one stabilizer bar responsive to said plunger such that said at least one

stabilizer bar is in a failsafe position when said plunger is in said first plunger position;

a return mechanism; and

a electromechanical mechanism configured to hold said plunger in at least  
5 a second plunger position and further configured to release said plunger upon detection of a failure condition thereby permitting said return mechanism to drive said plunger to said first plunger position and hence said at least one stabilizer bar to said failsafe position.

10 37. The system of claim 36, wherein said drive assembly further comprises an electrically driven motor having an output shaft, said electrically driven motor configured to receive power from said power source, said output shaft of said motor coupled to a gear train, said gear train further coupled to said plunger, said gear train comprising a clutch configured to release when said plunger is in said second plunger  
15 position to aid said return mechanism in back driving said plunger to said first plunger position.

38. The system of claim 36, wherein said failure condition is a loss of electrical power from said power source.

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39. The system of claim 36, wherein said failure condition is a malfunction of said electromechanical mechanism.

40. The system of claim 36, wherein said electromechanical mechanism comprises a solenoid having a solenoid shaft, said solenoid shaft having an extended position and retracted position, said solenoid shaft holding said plunger in at least said  
5 second plunger position when said solenoid shaft is in said extended position.

41. The system of claim 40, wherein said solenoid shaft releases said plunger when said solenoid shaft is in said retracted position.

10 42. The system of claim 40, wherein said detection of said failure condition occurs when a holding current for said solenoid shaft is interrupted.

43. The system of claim 46, wherein said failsafe position is activation of said stabilizer bar.

15 44. The system of claim 36, wherein said return mechanism is a compression spring.

45. A stabilizer bar system comprising:  
20 at least one stabilizer bar;  
a power source;

an actuator receiving electrical power from said power source, said actuator comprising:

5 a drive assembly configured to drive said at least one stabilizer bar, said drive assembly comprising an electrical motor configured to receive power from said power source; and

10 an electrical energy storage element coupled to said electrical motor and said power source, said electrical energy storage element providing sufficient electrical energy to said electrical motor to enable said electrical motor to drive said at least one stabilizer bar to a failsafe position upon detection of a failure condition.

46. The system of claim 45, wherein said failure condition is failure of power to said electrical motor from said power source.